

# **THE CURRENT INTERWAR YEARS:**

## **Is the Army Moving in the Correct Direction?**

A Monograph  
By  
Major Wayne W. Grigsby, Jr.  
Infantry



School of Advanced Military Studies  
United States Army Command and General Staff College  
Fort Leavenworth, Kansas

Second Term AY 95-96

Approved for Public Release; Distribution is Unlimited

19960924 028

[illegible]

## ABSTRACT

THE CURRENT INTERWAR YEARS: IS THE ARMY MOVING IN THE CORRECT DIRECTION? by MAJ Wayne W. Grigsby Jr., USA, 56 pages.

This monograph discusses the actions of the United States Army during the current interwar period. The future battlefield environment will be quite different than the environment of Operation Desert Storm. The United States Army needs to be able to adapt to this new battlefield environment when it presents itself. Modernization, doctrine development, and education during the interwar period will facilitate the future success of our Army.

The monograph will initially analyze both Force XXI and the current Revolution of Military Affairs (RMA). Both Force XXI and the RMA are vehicles the United States Army is using to navigate its way into the future. These conceptual ideas combined with the current FM 100-5 will be the driving force of change into the 21st Century.

The monograph will then provide a description of what the future battlefield environment might look like. Critical here is that the battlefield environment of the future will not be just terrain and enemy dependent. Demographics, culture, crime, urbanization, and disease will combine to make this future environment more complex than the battlefield environment of Operation Desert Storm.

The current Modernization Plan, Doctrinal development, and Education will be analyzed to see what direction the Army is actually moving in during this interwar period.

Finally, the author will analyze both the German and French Army during the interwar period between World War I and World War II. Both the Germans and the French had basically equal amounts of technology prior to the German attack of France in 1940. However, one country was successful and the other was not. The reasons for both the success and the failure will provide insight for the United States Army during the current interwar period. The conclusion will address these lessons and provide recommendations for the United States Army.

SCHOOL OF ADVANCED MILITARY STUDIES

MONOGRAPH APPROVAL

Major Wayne W. Grigsby Jr.

Title of Monograph: The Current Interwar Years: Is The  
Army Moving in the Correct Direction?

---

Approved by:

Clarence Edward Taylor Monograph Director  
LTC Clarence E. Taylor, MMAS

Danny M. Davis Director, School of  
COL Danny M. Davis, MA, MMAS Advanced Military  
Studies

Philip J. Brookes Director, Graduate  
Philip J. Brookes, Ph.D. Degree Program

Accepted this 23rd Day of May 1996

## ABSTRACT

THE CURRENT INTERWAR YEARS: IS THE ARMY MOVING IN THE CORRECT DIRECTION? by MAJ Wayne W. Grigsby Jr., USA, 56 pages.

This monograph discusses the actions of the United States Army during the current interwar period. The future battlefield environment will be quite different than the environment of Operation Desert Storm. The United States Army needs to be able to adapt to this new battlefield environment when it presents itself. Modernization, doctrine development, and education during the interwar period will facilitate the future success of our Army.

The monograph will initially analyze both Force XXI and the current Revolution of Military Affairs (RMA). Both Force XXI and the RMA are vehicles the United States Army is using to navigate its way into the future. These conceptual ideas combined with the current FM 100-5 will be the driving force of change into the 21st Century.

The monograph will then provide a description of what the future battlefield environment might look like. Critical here is that the battlefield environment of the future will not be just terrain and enemy dependent. Demographics, culture, crime, urbanization, and disease will combine to make this future environment more complex than the battlefield environment of Operation Desert Storm.

The current Modernization Plan, Doctrinal development, and Education will be analyzed to see what direction the Army is actually moving in during this interwar period.

Finally, the author will analyze both the German and French Army during the interwar period between World War I and World War II. Both the Germans and the French had basically equal amounts of technology prior to the German attack of France in 1940. However, one country was successful and the other was not. The reasons for both the success and the failure will provide insight for the United States Army during the current interwar period. The conclusion will address these lessons and provide recommendations for the United States Army.

## TABLE OF CONTENTS

INTRODUCTION.....	1
THE CURRENT DIRECTION OF MOVEMENT.....	6
FIGURE #1,THE SPECTRUM OF CONFLICT.....	9
THE PAST AND FUTURE BATTLEFIELD ENVIRONMENT.....	16
MODERNIZATION, DOCTRINE, AND EDUCATION.....	23
GERMANY VS FRANCE.....	32
CONCLUSIONS AND RECOMMENDATIONS.....	43
ENDNOTES.....	46
BIBLIOGRAPHY.....	53

## INTRODUCTION

Historians will examine the activities of the United States Army between Operation Desert Storm and the next Major Regional Conflict (MRC) to see if the U.S. Army used its time correctly during the interwar period. The manner in which the United States Army conducts its activities during the current interwar period will have a direct impact on how successful the Army will be in the next MRC. Throughout history, nations have failed to properly prepare for the next conflict during the interwar period. As a result, they do not have the capability or knowledge to win that all important "first battle" of the next war.<sup>1</sup> Numerous nations, to include the United States have failed to **"See the Elephant"** during the interwar period until it has stampeded over them in that crucial first battle.

**"Seeing the Elephant"** is an analogy that civil war soldiers used when trying to visualize what that first taste of combat would be like.<sup>2</sup> Soldiers from both sides did not know what to expect as they approached combat for the first time. Journalists, veterans, and their leaders tried to prepare them, but they were still confronted with the fog of not quite knowing. All armies live in this fog during the

interwar period. It is not until the first battle that the army will truly **"See the Elephant"** clearly. If an army does not know what the elephant looks like, it will be difficult to predict or imagine what the elephant will be like until the stampede has run through it. The fog can be lifted, somewhat, by talking to people who have seen an elephant before or by reading books that explain what previous elephants have looked like. We can be prepared for the stampede before the elephant arrives. During the current interwar period, it is critical that the U.S. Army try to **"See the Elephant"** well before it is within M16 range. The United States Army can not afford to add a Chapter 12 to the book entitled, America's First Battles.<sup>3</sup>

Michael Howard, a noted historian, talked about the interwar period in his acceptance speech for the Chesney Memorial Gold Medal.<sup>4</sup> Mr. Howard stated that "usually everybody starts even and everybody gets it wrong.....when everybody gets it wrong, the advantage goes to the side which can most quickly adjust itself to the unfamiliar environment and learn from its mistakes."<sup>5</sup> According to Howard, the important factor during the interwar period is not to get it too wrong but be able to adapt quickly enough to **"See the Elephant"** when it raises its head. During an interwar period, a country must look at the future with



three aspects in mind: operational requirements, technological feasibility and financial capability.<sup>6</sup> Michael Howard feels that thinking about operational requirements is the most important. "With inadequate thinking about operational requirements the best technology and the biggest budget in the world will only produce vast quantities of obsolete equipment; bigger and better forces for the wrong war."<sup>7</sup> In other words, the intellect of the Army during the interwar period weighs heavily in determining success in the future.

Currently, the downsizing of the U.S. Army and the other services within the Department of Defense (DOD) has forced the military to conduct its world-wide missions differently than in the past. During the interwar period, the Army should focus its efforts on educating the force and preparing the force for the next MRC. Even though the Army was extremely successful in Operation Desert Storm, it can not continue to find ways to fight that war better. The environment in which the next MRC will be fought will be quite different than Desert Storm. It is unlikely that the United States Army will fight an enemy as inept as Saddam Hussein in an environment with terrain suited for heavy armor or mechanized tactics. More importantly, the battlefield environment of Desert Storm will not necessarily

be the same in the next MRC. The combination of terrain, demographics, religion, and culture will be different in the next MRC. It is important that the Army takes this into consideration while it is preparing to fight the next war.

Additionally, the United States' future enemy will attempt to exploit perceived weaknesses, capitalize on past failures, and try to counter current U.S. strengths, i.e. technology. Technology cannot be perceived as the silver bullet or the modern day Maginot Line. The future enemy saw the United States fight in Desert Storm and watched it make peace in Somalia. One was considered a success. The other a failure. Perhaps, the Army's preparation during this interwar period needs to focus on a wider spectrum of conflicts in order to be able to adapt quickly when that elephant shows himself once again.

The Primary and Supporting questions for this monograph are as follows:

1. **Primary Research Question:** Is the U.S. Army moving in the right direction to facilitate success during the interwar period between Operation Desert Storm/Cold War and the next Major Regional Conflict?

2. **Supporting Research Questions:**

- a. Will the Force XXI model and the Revolution for Military Affairs provide the US the capability to fight the wider spectrum of conflicts that the US may encounter in the future?

- b. Is the Army's current modernization, development of doctrine, and education during peacetime going to facilitate success in the future?

c. What lessons can be learned from the French and the Germans during the interwar years between World War I and World War II?

d. Can these lessons learned from the interwar years facilitate the success of the U.S. Army during the current interwar period?

The purpose of this monograph is relatively simple. The author will try to determine whether the United States Army is properly preparing itself for the next MRC. This paper will not be able to determine if the U.S. Army is moving in the wrong direction, but will offer some suggestions that may enhance the Army's preparation for future conflict.

The primary audience for this monograph are all Army leaders who want to make the best use of their time during the interwar period. The civilian sector that provides support to the military and directs the military should also have interest in this monograph. The private sector to include manufacturers, scientists, and procurement agencies that will have an impact on the shaping of the future military should also be interested. This paper will help individual leaders who want to self-develop themselves in order to be better prepared for the next MRC.

The methodology for this monograph is simplistic. Initially, the author will first examine the direction that the Army is heading during the current interwar period. The author will do this by discussing the implications of Force

XXI and the Revolution for Military Affairs. The monograph will then provide information on what the battlefield environment of the future may look like and whether the Army is trying to fight the previous war better or focusing on a new battlefield environment. The monograph will then provide information on the Army's current modernization efforts, doctrinal development, and education. This analysis will provide insight as to which direction the U.S. Army is actually moving in.

After determining the current direction that the Army is moving and the possible battlefield environment of the future, the monograph will explore two case studies during the interwar period between WWI and WWII. The interwar activities of the Germans and the French will provide lessons learned that may help the United States during the current interwar period.

### **The Current Direction of Movement**

The United States Army is currently using Department of the Army Pamphlet (DA Pam) 525-5, Force XXI Operations and the Revolution of Military Affairs (RMA) to generate

ideas on how the Army should prepare itself for the next Major Regional Conflict (MRC). This section will provide information on how both Force XXI and the RMA visualize the direction the Army is moving. A key point to consider is that DA Pam 525-5 is not a doctrinal manual. Force XXI is the method or vehicle that the Army is using to generate ideas on how the Army should fight in the future. "Force XXI is a conceptual plan on how the Army will fight in the 21st Century. It is not doctrine but coherent ideas on how the Army should fight in the future."<sup>8</sup> The ideas presented in DA Pam 525-5 combined with FM 100-5 Operations dated June 1993 will lead the change into the 21st Century.<sup>9</sup>

DA Pam 525-5 seems to express ideas that will keep the Army close enough to adapt properly when it sees the elephant during the next first battle. It begins with the close relationship between strategy, doctrine, and technology. Advancements in technology alone will not win the next war, but the synergy between the three will lead the Army to success.<sup>10</sup> DA Pam 525-5 further states that "American technological superiority can not be taken for granted. Coevolution should play into the equation of technology."<sup>11</sup> Technology alone is not the answer. The intellectual thought that develops the doctrine and links

with technology will place the Army in a better position for success in the next first battle.

DA Pam 525-5 and Michael Howard seem to be in agreement when it comes to preparing an Army during the "Age of Peace".<sup>12</sup> Michael Howard stated during his acceptance speech that "During the age of peace there will be other small actions that may take up the time of an Army. But the current Army must remember what their true occupation is."<sup>13</sup> DA Pam 525-5 states that "In the future, America's Army will be focused on keeping the peace within our strategy. Simultaneously the Army must still be fully prepared for situations of war, conflict, and peace."<sup>14</sup> The bottom line is that the United States Army must be prepared to fight the complete spectrum of conflicts both now and into the future. According to FM 100-5 these types of conflicts can range from large scale combat operations to nation assistance as explained in Figure 1.<sup>15</sup> Paul Bracken, author of the article, "Whither the RMA: Two Perspectives on Tomorrow's Army" feels the same way. "When conducting brainstorming sessions on long-range planning a military needs to divorce itself from current conditions and look beyond."<sup>16</sup> An Army during the interwar years can not afford to simultaneously refight the previous war and plan the next war contingent on the conflicts it is currently engaged in. DA Pam 525-5 is

STATES OF THE ENVIRONMENT	GOAL	MILITARY OPERATIONS	EXAMPLES
WAR	Fight and Win	WAR	<ul style="list-style-type: none"> <li>• Large-scale combat operations ...</li> <li>• Attack</li> <li>• Defend</li> </ul>
CONFLICT	Deter War and Resolve Conflict	OTHER THAN WAR	<ul style="list-style-type: none"> <li>• Strikes and raids</li> <li>• Peace enforcement</li> <li>• Support to insurgency</li> <li>• Antiterrorism</li> <li>• Peacekeeping</li> <li>• NEO</li> </ul>
PEACETIME	Promote Peace	OTHER THAN WAR	<ul style="list-style-type: none"> <li>• Counterdrug</li> <li>• Disaster relief</li> <li>• Civil support</li> <li>• Peace build</li> <li>• Nation</li> </ul>
<p>The states of peacetime, conflict, and war could all exist at once in the theater command environment. He can respond to requirements with a wide range of military operations. Operations might occur during war, just as some operations other than war might require</p>			

Figure 1. The Spectrum of Conflict

the vehicle to bypass these obstacles and get the Army prepared for the next MRC which may be fought in a different battlefield environment.<sup>17</sup>

DA Pam 525-5 goes on to explain that because of the changing battlefield environment, doctrine needs to be less prescriptive in order to have the flexibility to adapt to the new environment.<sup>18</sup> The Army has moved from a prescriptive strategy like the Cold War to a broader strategy that calls for a less restrictive doctrine giving

leaders the opportunity to apply principles to different situations.<sup>19</sup> This increased need for innovative leaders, leads us directly to the skills that a Force XXI leader is suppose to possess.

The Leader Development portion of DA Pam 525-5 states that, "In their professional development, leaders will be exposed to ideas on military art and science that go beyond traditional models and the views of primarily western theorists. Leaders must have the skills of vision, innovation, adaptability, creativity, and the ability to simplify complexities."<sup>20</sup> The Force XXI leader needs to have these skills because of the dynamics of the new unknown battlefield environment of the future.

Force XXI seems to be moving the Army onto the correct path to the future. The Revolution of Military Affairs (RMA) seems to be putting the Army on a similar path. After reviewing the literature on RMA, it seems that the RMA and DA Pam 525-5 are a coordinated effort to provide ideas for change into the next century. Michael Mazarr, a Senior Fellow in International Security Studies at the Center for Strategic and International Studies, feels that the RMA can provide a coherent framework for thinking about the future of warfare and defense policy.<sup>21</sup> He also feels that this current RMA will create ideas that will help the



current Army fight both conventional and unconventional warfare in the next century.<sup>22</sup> This thinking is in line with Force XXI in that it looks at the complete spectrum of conflict, not just the mid to high intensity level of the spectrum.

Mazarr feels that there are four principles that should comprise the RMA framework. These principles are:

1. Information dominance.
2. Synergy.
3. Disengagement combat.
4. Civilization.<sup>23</sup>

The basis of the RMA framework is information dominance. The basic premise of information dominance is that information concerning the enemy has always been and always will be critical to any military success. "Knowledge of the enemy's location provides the basis for military action."<sup>24</sup> With advancements in technology, the amount of available information seems overwhelming. Future doctrine should explain how the Army can use this information, while denying the enemy the use of it. The Army will still have to stay within the enemy's decision making cycle in order to be successful.<sup>25</sup>

Mazarr feels that information is even more critical in unconventional/guerrilla warfare. However, the

reliance on computers and digitization may not be as useful in this type of warfare. "Information warfare in unconventional conflicts will rely on human intelligence, special forces, and advanced sensors capable of detecting guerrilla groups."<sup>26</sup> The changing method on gathering information and the way it will be used will be important to the Army's future success in low intensity conflict.

Mazarr's second principle is synergy. "Both synergy and information if utilized correctly can be force multipliers."<sup>27</sup> Synergy will enable our forces to fight more efficiently in the future. The RMA points out that there will be a much more significant impact on the enemy during battle when all services are working together. Mazarr stresses that, "Synergy should not be perceived as rooting out all aspects of redundancy, but rather making the various forces work better together."<sup>28</sup> This point is important because of the continuing drawdown of resources within the Department of Defense. Synergy may also be derived by combining the effects of multinational coalitions during future conflict.<sup>29</sup>

Once again the dwindling of DOD resources drives us to consider the benefits of developing synergy from multinational, political and economic aspects. This synergistic effect has to be present throughout the full

spectrum of conflict. The military will have to become more accustomed to working with both the political and economical elements of strategy when engaging in the lower end of the spectrum. A military solution alone can not provide the synergistic effect needed to be successful in these types of conflicts.

The third principle is disengaged combat. In other words, destroying the enemy from long distance. The need to kill the enemy outside the range of his weapon systems is the preferred method because of the lethality of close combat during high intensity conflict.<sup>30</sup> Force protection is becoming ever more important because of the presence of the media on the battlefield. The increased presence of the media on the battlefield coupled with the public's sensitivity to casualties drives the use of disengaged combat. "Anything that helps minimize casualties would therefore greatly increase US freedom of action."<sup>31</sup>

The advancement and lethality of weapon systems and the use of near time intelligence will change the way the Army organizes itself. The current unit organization, tactics, and modes of thinking may not be the same in the future. "Tactically, a US Joint Force Commander would seek to fight the enemy without ever placing his forces within range of most enemy weapons. Using the greater accuracy of

advanced sensors and precision weapons, US forces could jockey just out of range of enemy artillery, tanks, and battlefield missiles, picking them off in turn."<sup>32</sup>

Employing forces in this manner is different from the way the Army fights today. This arraying on the battlefield must be incorporated into our future doctrine to account for this new phenomenon.

Disengaged combat does not fit well in the low intensity side of the spectrum because this type of conflict does not have large formations that can be easily identified and attacked by long shooting weapon systems. The enemy in the lower part of the spectrum will tend to be infantry based, using the battlefield environment to their advantage.<sup>33</sup> In fact, proper identification of the enemy forces and friendly forces is much more difficult in the lower end of the spectrum of conflict. Disengaged combat may be better suited in the mid to high intensity level conflict on a battlefield, where close quarters combat is not required for victory.

The final principle of the RMA structure is the civilianization of war. The military will tend to work with the civilian sector more because of the advancements in technology, and the drawdown of forces. "Because of the remarkable advance of technology and the stifling system of

military procurement, civilian computers, engines, optics, and other systems are far outpacing their military equivalents. Civilian products are also far cheaper."<sup>34</sup>

The key point here is that there is a great amount of off-the-shelf technology in the civilian sector that can make the military more efficient and less expensive. Dependence upon reserves will also cause more civilianization of war.

The current drawdown of forces will tend to place more emphasis on the reserves.<sup>35</sup> This especially becomes critical in the logistical side of the Army. There are numerous amounts of reserve units that the Army will need to utilize if there is another Major Regional Conflict in the future.

Unconventional forces have always been more comfortable working with the civilian sector. "The myriad of social, political, and economic factors involved in peacekeeping or counterinsurgency operations has always made them far more than purely military struggles."<sup>36</sup> Operations in the lower part of the spectrum will not have a military solution, solved by combat operations alone. The use of the "DIME"; diplomacy, information, military, and economics, will always have a great impact on these missions. Missions at the lower end of the spectrum will push the military to work with the civilian sector even more.

Force XXI and the RMA seem to be moving down the correct path. They are the vehicles that will drive the Army to change in order to be successful in the future. Initial analysis does demonstrate that these two vehicles are nested and in fact tend to show the necessity for change throughout the wide spectrum of conflicts that the Army may face. The question that remains, is the Army currently following these directions and will these directions lead us to success on the future battlefield environment?

### **The Past and Future Battlefield Environment**

The battlefield environment during Operation Desert Storm was one that the United States Army had been planning to fight for the last 15 years. The US Army has been planning to fight a World War II style battle since the end of the Vietnam War. The Desert Storm battlefield environment was also consistent with the Clauswitzian, western model of fighting a war. It was a conventional war with two distinct nation states, Iraq and the United States/coalition of nation states. Each country, Iraq, Saudi Arabia, and Kuwait had well defined boundaries that needed to be enforced. The United States and its coalition

partners effectively identified the enemy's center of gravity and defeated him by effecting that center of gravity and throwing the Iraqi Army off balance. The war fought in the desert of Iraq was very similar to the war the Army had been training for in Western Europe. Operation Desert Storm was an ideal war fought in terrain suitable for heavy armored and mechanized tactics where the United States had an asymmetrical advantage in technology.

Major General Vladimir Slipchenko, chief of the General Staff Academy research department, Russian Armed Forces, has summarized the evolution of warfare in five generations:<sup>37</sup>

1. Infantry and Cavalry fighting without firearms.
2. The introduction of smoothbore weapons and gunpowder.
3. Increased firepower provided rifled small arms and tubed artillery, coupled with longer ranges and greater accuracy and rates of fire.
4. Automatic weapons, tanks, aircraft, enhanced transport capability and signal equipment.
5. Nuclear weapons.<sup>38</sup>

He believes that Operation Desert Storm was a fourth generation power, Iraq, fighting against a country on the verge of the sixth generation.<sup>39</sup> The fourth generation of

warfare was developed with technology that was prevalent at the beginning of World War II. In other words, the United States fought an enemy, Iraq, who had the same type of equipment and force structure a World War II army had.

In a article written by A. J. Bacivich, President Bush was quoted as saying, "we have finally kicked the Vietnam Syndrome."<sup>40</sup> This may not be entirely correct. The United States defeated a country in a typical WWII battle. A battle that the U.S. Army had been training for the last 15 years. Vietnam was a different type of war than Desert Storm and World War II, which had an easily identifiable enemy who fought using primarily conventional methods. Vietnam was a war with an enemy that was difficult to identify and used the battlefield environment to negate the technological advantage that the United States had. The nature of the conflict in Desert Storm was easily understood where as the nature of the conflict in the Vietnam War was more difficult and never fully understood throughout the entire war. Desert Storm in fact was nothing like the Vietnam War.

Changes in the battlefield environment from Operation Desert Storm to the future will occur. Research shows that a change in the future battlefield environment may not be limited to changes in terrain. The future



environment will include changes in demographics/urbanization in poorer countries, unidentified enemy, and the identification of non-nation states. These four characteristics will cause the environment to be more complex than in the past.

The future battlefield environment will be more urbanized as the result of the movement of people in the poorer countries of the world. Robert D. Kaplan states in his article entitled "The Coming Anarchy", that, "Over the next fifty years, the earth's population will rise from 5.5 billion to more than 9 billion".<sup>41</sup> The increase in population coupled with the decrease in resources around the world will cause the majority of these people to migrate to urbanized areas. Kaplan continues to state that, "...95% of the population increase will be in the poorest regions of the world."<sup>42</sup>

Increased urbanization will impact on the society as a whole. Overpopulation will cause an increase of disease, unprovoked crimes, and scarcity of resources. LTC Russell Glenn, author of a Rand Study entitled, "Fighting in Hell: A Consideration of Constrained Urban Warfare", explains the growth of population and the migration to urban sites in the 20th century in greater detail. "Five years after World War II, only three of the world's ten largest cities were in

developing nations. Seven of the top ten were in third world countries by 1990."<sup>43</sup> The increased population in third world cities will place increased demands on the government to continue to provide the basic needs for their people.

The paradigm of two nation states conducting battle may not be part of the future battlefield environment. Increased population in urban areas within poor countries will cause people to be more concerned with their personal survivability rather than the survivability of a nation. This in turn will cause increased crime focused on creating a survivable environment for the individual or gangs. Kaplan states that, "The world is currently moving from a nation state conflict to ideological conflict, to finally, cultural conflict."<sup>44</sup> The geographical boundaries that currently make up modern day nation states will tend to dissolve and become more culturally based. The governments of the current nation states will find it very difficult to govern with these new and difficult boundaries.

The post Westphalian nation state on which Carl Von Clausewitz based his writings may not be a major player within the future battlefield environment. A non-nation state made up of different cultures and gangs will be

scattered throughout the future battlefield making the environment more complex than it is today.

The bottom line is that the increased populations of poor countries will concentrate in the cities and will produce more crime and disease. The government's inability to provide for its citizens will cause the people to become more protective of their own personal security and survivability rather than supporting their own nation state. Gangs will perform the security function that the government can no longer provide. These gangs will be formed around religious and/or cultural groupings. These gangs will not be nested in a traditional sense that the government was in a nation state. There could be 50 or more independent gangs in each city. This may be the battlefield environment of the future.<sup>45</sup>

The third characteristic of the future battlefield environment is proper identification of the enemy. Urban terrain is by definition a very complex environment. Adding to this natural complexity will be the proliferation of gangs operating independent enclaves within each city. The increased urbanization and the myriad of different types of people within these built up areas causes problems with proper identification of the actual enemy. Identifying who the actual enemy is within this environment will be

extremely difficult. There was not a problem identifying the enemy in the desert of Iraq. However, it may very well be a problem with increased urbanization of the battlefield of the future.

The final characteristic will be the future enemies' perception of the United States' overwhelming success in Operation Desert Storm. Operation Desert Storm was a quick and decisive victory for the coalition of nation states. The coalition had an overwhelming asymmetrical advantage of technology and the war was fought on open terrain suitable for heavy armored/mechanized tactics. The problem is that the future enemy saw the strengths of the U.S. Army. Daniel Bolger states that, "Our future enemy has seen the power of our heavy armored division. From WWII to the present they have seen how the United States has been successful, but more importantly how we have failed."<sup>46</sup> Traditionally, the United States has not done as well in conflicts like Vietnam and most recently Somalia where the battlefield environment was more complex and not easily understood as in WWII and Desert Storm. A future enemy will try to build an environment that is advantageous to himself while exploiting the weaknesses of the United States. He will not try to match the United States with technology, but rather deny the United States to use its own technology. He will try to

prevent the United States from achieving quick decisive victory by setting the conditions for a more protracted type conflict. "A future enemy would do well to learn from these mistakes and study Mao and Ho Chi Minh and perfect the skills and patience of protracted struggle, propaganda, and terrorism."<sup>47</sup> The next enemy will not provide an opportunity like Operation Desert Storm again. It will not fight a war on terrain suited for a heavy mechanized combat where the United States can use all its technological advantages to quickly gain a victory in 100 hours.

In summary, the future battlefield environment will be quite different than the battlefield environment of the past. The Army needs to have the capability to quickly adapt to the new battlefield environment when it presents itself.

#### MODERNIZATION, DOCTRINE, AND EDUCATION

The United States Army seems to be physically moving in the direction that both Force XXI concepts and the current RMA philosophy states it should. A closer examination of the current modernization efforts, doctrine

development, and education of the force reveals that the Army tends to place the majority of its interest in the high-to-mid intensity side of the spectrum. In other words, the army is favoring a more western approach to fighting wars. A highly modernized army is one characteristic of a western type army.

General Gordon Sullivan stated in an article he wrote for Military Review that the focus of the modernization should be, "To reduce American casualties on future battlefields, we must have overmatching technology that will provide the means to apply overwhelming and decisive combat power while minimizing risks to our soldiers."<sup>48</sup> The role/purpose of technology in the force of the 21st Century is reflected in the current modernization plan:

1. Project and sustain the force: A CONUS based Army must have the capability of quickly projecting the force and its equipment and resources anywhere in the world. Advanced technology will allow the Army to maximize the use of its resources for a minimum cost. It will provide a bigger bang for the buck.<sup>49</sup>

2. Protect the force and preserve freedom of action: The Army must continue to develop weapon systems and technology that can defeat a high-tech threat. The

abundance of available off-the-shelf technology that can be obtained by other potential adversaries forces the United States Army to continue to develop counters to each potential threat. Technology to protect against enemy missiles, facilitate counter battery fires, and assist Identification of Friendly Foe (IFF) of equipment and aircraft needs to be further developed for all types of environments.<sup>50</sup>

3. Win the battlefield information war: The identification and disposition of the enemy while staying inside the enemy's decision making process has always been a goal of an army. "The ability to collect, process, and use information about the enemy, while denying him the same intelligence of your forces, is invaluable and incalculable."<sup>51</sup> Throughout time, armies used different tactics and techniques to stay ahead of the enemy's thought process. The Army can use advanced technology to win the information war. "By blinding his sensors, locating his forces and transmitting near real-time information to an appropriate weapon system, we will be able to strike and destroy the enemy in all types of weather, 24 hours a day."<sup>52</sup>

4. Conduct precision strikes throughout the battlefield: The Army needs the capability to destroy the

enemy's combat forces and logistical centers deep in the enemy's rear. The focus of deep operations is to set positive conditions for the Army's close fight. The use of precision strikes to interdict the enemy prevents the enemy from massing his combat power. "Any commander given the choice of destroying his enemy up close or at great range will choose the latter."<sup>53</sup> The advancements of technology to include ATACMS will help the Army to conduct these missions.

5. Dominate the Maneuver Battle: The Army needs to use technology in order to develop the capability to destroy the enemy simultaneously throughout the depth of the battlefield. In the close battle, the Army accompanied by the assets of the sister services, must be able to simultaneously shut down the enemy by synchronized fire and maneuver throughout the entire battlefield.<sup>54</sup> "In the future, our equipment must receive upgrades and we must develop new systems that emphasize increased range and lethality."<sup>55</sup> Once again, technology used to overwhelm the enemy in the close fight will isolate potential reinforcements deep.

The five areas of the modernization framework seem to focus on a more conventional but highly lethal battlefield. These areas reflect the current method that



the high tech western armies expect to fight their future wars. As long as the future threat looks like the United States, the current modernization plan will be able to counter the most dangerous enemy course of action to the nation. This most dangerous enemy COA to the *nation* is another highly technological army fighting the United States in a mid-to-high intensity conflict. The modernization plan is but one tool to help the Army adapt to the elephant. Doctrine can also help the Army adapt to the future battlefield.

The Army's keystone doctrinal manual, FM 100-5, Operations, reflects the nation's desire for quick victory in future wars. "Decisive victory in war is the Army's traditional role and remains the primary focus."<sup>56</sup> The 1993 version of FM 100-5 updated the 1986 version to account for the changes that have taken place in the strategic environment since the fall of the Berlin Wall. The strategic environment is no longer a bi-polar contest between east and west. The uncertainty of not having a clearly identifiable enemy drove the Army to develop a capability to adapt to this complex environment.

The major changes between the two manuals is that the new version focuses on creating the capability to adapt to this new, complex environment. The addition of

versatility as a new Tenet of Army Operations provides some help in understanding the changes in the environment.<sup>57</sup> "As our Army addresses the wide array of missions in the vague and uncertain post--Cold War environment that possesses a multitude of diverse threats, our force must be versatile. We must be able to transition from that readiness, to conduct other operations then quickly transition back, perhaps in the same theater of operations."<sup>58</sup> Versatility applies not only to high intensity conflict but to the entire, wider spectrum of conflict.

Chapter 13 of the current FM 100-5 addresses the wider spectrum of conflict with the introduction of **Operations Other than War** (OOTW). It states that, "In preparing to fight the nation's wars, the Army develops the leadership, organizations, equipment, discipline, and skills for a variety of operations other than war. Doctrine for war compliments that for operations other than war."<sup>59</sup> Current doctrine recognizes that leaders need to have the capability to quickly transition from one type of operation to a completely different type of operation in the same theater.

Other than chapters on Force Projection and OOTW, the current FM 100-5 continues to stress the theme of "Overwhelming combat power being achieved when all combat

elements are violently brought to bear quickly, giving the enemy no opportunity to respond with coordinated or effective opposition."<sup>60</sup> Simply put, FM 100-5, the keystone doctrinal manual continues to place its emphasis on building and fighting a highly technological modernized enemy force, in keeping with western tradition of highly rapid lethality to achieve success on the battlefield. In order for the Army's modernization efforts and doctrinal development to be even more effective, the leaders of the Army need to be properly educated to employ the new technology and doctrine previously discussed.

The Army's Force XXI leadership receives instruction at the Command and General Staff College(CGSC), the mid level school for field grade officers. The focal point of the tactics curriculum continues to be on mid-to-high intensity warfare. The majority of the tactics curriculum concentrates on defeating the most dangerous COA to the nation.<sup>61</sup> Although the Cold War has been over for seven years, the school still uses an enemy based on the Soviet Army model. Less than 20% of the tactical instruction in CGSC deals with the complexity of a low to mid intensity conflict - the battlefield environment that the U.S. will most likely face in the future.<sup>62</sup>

The Future Force XXI leader must have the capability to adapt, to be innovative, to be creative, and possess the vision and the capability to simplify complexities.<sup>63</sup> By continuing to focus on "two up and one back" scenarios, the leaders are not having to deal with the complexities of the most likely future battlefield environment. The leader is more likely to take the lessons learned from the past and provide the solution to the current tactical problem in CGSC. He does not have to be creative or innovative to solve this problem. The leader will continue to be an application learner rather than a synthesis learner during his year at CGSC.

According to Blooms Taxonomy of learning there are five levels of learning. These hierarchical levels are knowledge, comprehension, application, analysis, synthesis, and evaluation.<sup>64</sup> As described in a monograph by Major Jeff Lau, "These classes of educational behaviors cover the range from low to high levels of complexity. Problems requiring synthesis are more difficult than those requiring comprehension."<sup>65</sup> The Application level involves using an appropriate technique to solve a new problem without being prompted as to which technique is correct. In other words, using what has been previously learned.<sup>66</sup> The Synthesis level involves putting together different parts to form a

whole. The process of working with different parts and combining them in such a way as to constitute a pattern or structure not clearly there before is synthesis learning.<sup>67</sup> The battlefield environment that is tested in CGSC seems to be more conducive to application learning. Even though this rather familiar battlefield environment may be the most dangerous COA to the nation, the amount of synthesis derived is somewhat limited. If the future battlefield environment is going to be more complex, and we fully expect that it will be, then leadership training during the current interwar period needs to be more synthesis learning rather than application learning.

In short, current modernization plans, doctrine, and educational philosophy continue to prepare the Army for conflict against the nation's most dangerous enemy, another highly technological, highly lethal army. The interwar Army is probably correct in focusing the majority of its efforts on countering a high tech, highly lethal enemy. But the previously discussed future battlefield environment may be the most dangerous for the Army as an institution. The Army needs to leverage off of its educational/intellectual focus in the school house in order to prepare for both types of environment. France and Germany during the interwar period

between WWI and WWII can offer some lessons for the United States during the current interwar period.

### GERMANY VS FRANCE

Because the opposing armies had basically the same types of weapons/technology, the successes that the Germans enjoyed between 1939-44 can be attributed to the country's intellectual activity during the interwar years prior to World War II (WWII). The French had 2,285 of their own tanks on the eve of WWII. The Germans had 2,574 tanks.<sup>68</sup> Robert Doughty, author of the book The Seeds of Disaster, feels that the main difference between the Germans and the French was not the tanks, "but how they were organized and employed."<sup>69</sup> In other words, the intellect of the German Army in the interwar years facilitated the German Army's dominance in the early years of WWII.

Leadership education during the interwar years, should help the preparation of the country's military for the next war. Michael Howard stated that "usually everybody starts even and everybody gets it wrong....when everybody

gets it wrong the advantage goes to the side which can most quickly adjust itself to the unfamiliar environment and learn from its mistakes."<sup>70</sup> Developing quality leaders during peacetime will enable the Army to adapt quickly to an unfamiliar environment. The Germans and the French during the interwar period between WWI and WWII provide two contrasting case studies that show the importance of both leadership and intellectual education. Differences in intellectual approach between the French and the Germans during the interwar years led directly to the initial success of the Germans in France in 1940. It also led directly to the ultimate failure of the French during WWII.

The German Army began a period of self-reflection after the Treaty of Versailles was signed. They immediately began analyzing themselves and preparing for the next conflict. James S. Corum outlines three lessons that the German Army learned from WWI:

1. The German Army in 1919 developed a postwar survey that critically analyzed the wartime performance of the Army. More than 100 officers assessed not only the mistakes on the western front but also looked at its successes on the eastern front.<sup>71</sup> This assessment allowed the German Army to recognize the effectiveness of mobile warfare from the eastern front contrasting it with the

unsuccessful trench warfare on the western front. The Germans realized that trench warfare was not the course of action of the future.

2. The intellectual atmosphere was the second lesson. "While insisting that the army adopt a common operational and tactical doctrine, the Reichswehr avoided intellectual stagnation."<sup>72</sup> Officers within the German Army were allowed to argue different methods without being ridiculed or dismissed from the service.<sup>73</sup> Even though the Treaty of Versailles imposed a 100,000 man cap on the German Army, leaders were still allowed to be creative and innovative without jeopardizing their career.

3. The final lesson is the importance of training. Both the officer and the NCO corps needed an intensive training program. The entire leadership of the German Army from mid level officers to corporals in the NCO corps received intensive training throughout the entire interwar period. The training focused on both maneuvering of large units and individual skills. This type of training throughout the entire German Army facilitated the future execution of the *Blitzkrieg* tactics.<sup>74</sup>

Hans von Seeckt, who served as the first commander of the General Staff/Troops Office (Truppenamt) between 1919 to 1926, established the foundation of intellectual thought



for the German Army in WWII.<sup>75</sup> Von Seeckt fought on both fronts during WWI. He drew different lessons from each theater of war.<sup>76</sup> The German Army during the interwar years drew one key lesson from the western front: a static defense was not the best strategy for the next war. Witnessing successful experiences of open/mobile warfare on the eastern front reinforced this thought.<sup>77</sup> Von Seeckt felt that mobility, not fire and maneuver, was the key to winning the next conflict.<sup>78</sup>

Von Seeckt's vision of mobility was a highly mobile infantry force supported by artillery. The infantry was still the strongest arm and gained greater speed by using trucks to move about the battlefield.<sup>79</sup> The artillery tended to be less centralized than the way it was during WWI. However, Von Seeckt realized that the Army's leadership needed to be better trained in order to take the initiative when the opportunity presented itself.<sup>80</sup> The interwar German Army was limited to 100,000 soldiers because of the restriction implemented by the Treaty of Versailles. Von Seeckt once again took advantage of this perceived restriction and applied it to his mobility concept. He felt that, "The small, professional force would be better led and equipped than the mass armies, and it would use mobility and maneuver far more effectively."<sup>81</sup> In other words, in order

to fight with more mobility against stronger armies, a smaller, more elite and educated force would be needed.

Von Seeckt developed a two-fold method to educate his force. With the ceiling of 4,000 officers, Von Seeckt had to be selective in the type of officers commissioned in the army<sup>82</sup>. Hans Meier-Welcker, an officer candidate in 1925 wrote that, "After an initial review of the system in 1924, Von Seeckt issued directives to raise the individual standards for admission as an officer candidate as well as the standards for the academic training program in the branch schools".<sup>83</sup> Von Seeckt was now bringing in better qualified officers into the army than in the past. Officers were selected because they had the potential to lead units in the more mobile Army that Von Seeckt was creating. The second and perhaps the most critical phase of the process was the development of those officers who could lead units in this more mobile Army.

Adjustments had to be made to the education of the General Staff. Prior to WWI, the German Army developed the *Kriegsakademie*, a three year course that developed selected officers to serve on the elite General Staff.<sup>84</sup> The students studied military history, tactics, logistics, and operational problems. The intent of the course was to develop future division, corps, and army commanders.<sup>85</sup> The

Treaty of Versailles' abolition of the Kriegsakademie did not stop Von Seeckt's initiative. He continued the same type of education process but simply redesignated the students as "leader assistants" to circumvent the General Staff prohibition.<sup>86</sup> The limited size of the Officer Corps necessitated a change in entrance procedures as well. Prior to WWI, the Military District Examinations were voluntary for those officers who wanted to attend the Kriegsakademie. However, in the post WWI school the test was mandatory for all officers, creating a larger pool to pick the best and the brightest for the school.<sup>87</sup> This change in strategy, initiated by Von Seeckt added, three distinct changes to the officer education system. These changes applied a heavier emphasis on education for all officers within the German Army:

1. An additional hurdle was placed before less-educated officers.

2. All Reichswehr junior officers were forced into an intensive study program.

3. The entire officer corps was a recruitment pool for the General Staff corps.<sup>88</sup>

The rigorous evaluation process and academic program fostered innovation, creativity, and intellectual growth and prepared the officer corps for the future complexity of the

WWII battlefield. Students were required to write history papers and solve tactical problems, but evaluations were purely subjective.<sup>89</sup> There were no "school solutions" but, "each students solution was examined and discussed on its own merits."<sup>90</sup> Corum stated that this type of education was quite different from the methodologies other countries used during this time. For example in the United States "the Fort Leavenworth Staff School, then as now, tactical solutions were graded strictly according to their conformity with the official school solution, which was the 'right' answer. Original, unconventional tactics were not encouraged in American General Staff training."<sup>91</sup> The German officers with a smaller army were still able to be creative and innovative in an educational environment. There was no wrong answer to tactical problems, only different answers. In the United States, if the answer did not follow the exact guidelines, it was an incorrect solution.

By recruiting and developing more innovative and creative leaders Von Seeckt was able to cultivate an officer corps capable of executing his theory of mobility. Even though Von Seeckt did not foresee the technological changes of the tank and the airplane, his theory of mobility would

continue to grow throughout the interwar period and into WWII.

In 1929, Major Heinz Guderian perceived that the evolution of the tank and the utilization of the airplane would increase the mobility of the army even further. It was left to Major Guderian to apply the tank and the airplane to Von Seeckt's theory of mobility. Guderian's combined arms team would consist of the infantry, artillery, airplane, complimented by the speed and shock of the tank. This technology and mobility was able to revive the idea of the *Kesselschlacht*, the cauldron battle of annihilation.<sup>92</sup> The fundamental premise of this more mobile army was Von Seeckt's answer to the dilemma of stalemate and trench warfare of WWI. It was derived from his intellectual thought in the early 1920s. Heinz Guderian applied the evolution of technology to the fundamental premise of Von Seeckt's theory of mobility. This team provided the German Army with what the American's called the *Blitzkrieg*.<sup>93</sup>

The positive lessons learned on the Eastern Front and the negative lessons learned on the Western Front during WWI formed the basis of how Von Seeckt thought the next war should be fought. His intellectual thought and the methodology he used to educate the leaders during the interwar period increased the impact of new technology, the

tank and the airplane, during WWII. The Germans seemed to learn the correct lessons from WWI, where as the French saw the same actions but did not draw the same conclusions as the Germans.

The French Army continued to plan and fight WWI better, during the interwar years. The French general, Henri Petain, believed that the defense was the way of the future.<sup>94</sup> The major reason he felt this way was directly attributable to his experiences in WWI. He was the architect of the "unconquerable defense" in the Battle of Verdun<sup>95</sup>. This victory at this key battle and the continued success the French enjoyed utilizing the defense against the attacking German Army, dominated the intellectual thought of the French Army during the interwar years. Both the French and the Germans saw the success of the defense but drew different conclusions from this success.

The French doctrine suggested that the use of artillery/indirect fire, coupled with a strong defense, was the successful way to fight future battles.<sup>96</sup> This was a correct observation but a lesson learned incorrectly from their WWI experience. That lesson caused the French to think of war in a methodical way. This approach decreased the flexibility of the French Army. This type of doctrine does not allow a maneuver force to conduct operations

without the centralized controlled artillery being in a position to support the maneuver force.<sup>97</sup> Centralized control decreases the initiative at the lower levels and did not give the French the flexibility to fight against a more mobile force like the Germans. The French saw the defense as a successful way to fight the future war where as the Germans saw it as an ineffective form of combat and developed a more mobile army to defeat it.

Perhaps the most fundamental difference between the French Army and the German Army during the interwar period was their approach to their educational systems. General Huntziger, France's War Minister during the interwar period addressed the problem in a general order dated 25 November 1940. "The French Army had relied too much on textbook solutions before the war, and that future training exercises should emphasize having commanders solve unanticipated problems, make decisions, and issue concise orders rapidly."<sup>98</sup> Robert Doughty, author of the book, The Seeds of Disaster, states that "...the French became too pedantic, too theoretical, and not practical enough; their doctrine was suited for the classroom rather than for the battlefield. Officers were not rewarded for being innovative, they were rewarded for absorbing huge amounts of information and learning to apply a series of fairly

standard responses (one could almost call them formulas) to particular situations."<sup>99</sup> The French educational system seemed to be based more on application learning than synthesis learning during the interwar period. Officers in the French Army tried to take solutions from previous battles and use them to solve new complex problems. This approach failed. They drew their lessons learned primarily from the Western Front. They did not experience or see the potential effectiveness of a more mobile type of warfare fought in the east. The French tried to find ways to fight the previous war better, but they failed because they were unable to adapt when they saw the elephant.

In summary, both the French and the Germans had access to similar amounts and quality of technology prior to the start of WWII. The application of contrasting types of intellectual thought on how to fight the next war during the interwar years proved to be the difference. Technology was not the deciding factor. The Germans learned from their lessons on the Western Front with Hans von Seeckt providing the intellectual basis for how the Germans would fight in WWII. Heinz Guderian simply applied the evolution of technology to the original thoughts of Von Seeckt and his theory of mobility. The French's intellectual thought during the interwar years was centered around finding a



better way to fight WWI. Their methodical defense lacked the mobility to counter the more mobile German Army. Both the Germans and the French fought in WWI, observed similar actions in combat, but drew different lessons. The intellectual thought proved to be one reason why one army was successful and another was not.

### **CONCLUSIONS AND RECOMMENDATIONS**

In conclusion, the U.S. Army seems to be moving in the right direction during the interwar period. Both Force XXI and the RMA conceptually provide a good road map to the 21st Century. Most importantly each recognize that the U.S. Army should be able to conduct operations in a wider spectrum in the future. For the most part, the Army's modernization plan, current doctrine, and education tend to provide the capability to conduct operations in and across a wider spectrum of conflict. Even though these three components of building an army during an interwar period tend to focus the majority of their efforts toward facing a

western, highly technological, and highly lethal enemy, this may be okay.

A highly technological, highly lethal enemy confronting the United States in the future is the most dangerous COA for the United States as a Nation. A near-peer enemy who operates in a highly technological and lethal environment is more dangerous to the nation than an enemy within this new complex battlefield environment that the author discussed in the monograph. If this complex battlefield environment presents itself it will be the most dangerous COA to the Army as an institution.

Future Army leaders must have the capability to adapt quickly to this environment. The current interwar period is the right time to prepare these leaders for the complex environment of the next battlefield. As discussed earlier, the Germans and the French had similar amounts of technology on the battlefield during WWII. But the Germans developed innovative, creative, and adaptable leaders that were able to react positively to a new complex environment. The U.S. Army needs to learn from the example of the German Army and develop these types of leaders, capable of working in a complex environment of the next battlefield.

To prepare for the next battlefield, the United States Army does not to change either its modernization plan

or current doctrinal development. We must have an Army that can fight and defeat a future enemy that is equipped with similar technological advances. The future doctrine must compliment these technological advances and provide a framework to correctly apply them on the next battlefield. The United States Army must leverage itself in the educational arena in order to adapt to this new battlefield environment. The development of innovative, creative, adaptive leaders that can take complex problems and derive simple solutions is one of the keys to success that will prepare the Army for when the elephant raises its head.

## ENDNOTES

<sup>1</sup> Charles E. Heller and William A. Stofft, editor. (Lawrence, Kansas: University Press of Kansas, 1986). This book presents information on ten first battles that the United States have fought in since the Revolutionary War. The author's present the battle then discuss the problems that the United States had in these battles. Our next First Battle does not want to be another chapter in this book.

<sup>2</sup> Sullivan, Gordon R. and Coroalles, Anthony M., SEEING THE ELEPHANT, Leading America's Army Into the Twenty-First Century,

<sup>3</sup> Heller and Stofft.

<sup>4</sup> Michael Howard. "Military Science in an Age of Peace," (Chesney Memorial Gold Medal Lecture given on 3rd October 1973). Michael Howard discusses the problems with trying to See the Elephant during peacetime. He presents some ideas that may make it easier for an Army during an interwar period.

<sup>5</sup> Ibid., 4.

<sup>6</sup> Ibid., 3.

<sup>7</sup> Ibid., 3.

<sup>8</sup> TRADOC PAMPHLET 525-5, FORCE XXI OPERATIONS, A Concept for the Evolution of Full-Dimensional Operations for the Strategic Army of the Early Twenty-First Century, (Washington D.C.: Headquarters, Department of the Army, 1 August 1994), ii.

<sup>9</sup> Ibid., 1.

<sup>10</sup> Ibid., 1-5.

<sup>11</sup> Ibid., 2-2.

<sup>12</sup> Howard, 1.

<sup>13</sup> Ibid., 2.

<sup>14</sup> FORCE XXI OPERATIONS, 1-4.

---

<sup>15</sup> Field Manual 100-5, Operations, (Washington, D.C.: Headquarters, Department of the Army, 1993), 2-1. Figure 1 shows the wide spectrum of conflicts that the United States Army thinks it may face in the future.

<sup>16</sup> Paul Bracken and Raoul Henri Alcala. "Whither the RMA: Two Perspectives on Tomorrow's Army", Strategic Studies Institute, (U.S. Army War College, 1994), 1.

<sup>17</sup> FORCE XXI OPERATIONS, 1.

<sup>18</sup> Ibid., 3-17.

<sup>19</sup> Ibid., 3-17.

<sup>20</sup> Ibid., 4-4.

<sup>21</sup> Michael J. Mazarr. THE REVOLUTION IN MILITARY AFFAIRS: A Framework for Defense Planning, (U.S. Army War College, June 10, 1994.), iii.

<sup>22</sup> Ibid., 3. This same focus is in line with DA Pam 525-5, Force XXI Operations.

<sup>23</sup> Ibid., 4. The explanation of each principle shows that there is a linkage between the RMA and Force XXI in words. It does address the full spectrum of conflict but tends to lean toward the high technology/high intensity end of the spectrum.

<sup>24</sup> Ibid., 9.

<sup>25</sup> Ibid., 9.

<sup>26</sup> Ibid., 11.

<sup>27</sup> Ibid., 12.

<sup>28</sup> Ibid., 11.

<sup>29</sup> Ibid., 13.

<sup>30</sup> Ibid., 16.

<sup>31</sup> Ibid., 17.

---

<sup>32</sup> Ibid., 18.

<sup>33</sup> Force XXI Operations, 2-4.

<sup>34</sup> Mazarr, 23.

<sup>35</sup> Ibid., 23.

<sup>36</sup> Ibid., 22.

<sup>37</sup> LTCDR Randall Bowdish. "The Revolution in Military Affairs: The Sixth Generation", Military Review, Nov/Dec 95, 26.

<sup>38</sup> Ibid., 26.

<sup>39</sup> Ibid., 26.

<sup>40</sup> A.J. Bacivich. "The Use of Force In Our Time", Wilson Quarterly, Winter 1995, 50.

<sup>41</sup> Kaplan, Robert D., "The Coming Anarchy", The Atlantic Monthly. 59.

<sup>42</sup> Ibid., 59.

<sup>43</sup> Russell W. Glenn. "Fighting in Hell: A Consideration of Constrained Urban Warfare", (Draft), RAND, 6.

<sup>44</sup> Kaplan, 60.

<sup>45</sup> Ibid., 72.

<sup>46</sup> Daniel P. Bolger. "The Ghosts of Omdurman", Parameters, Autumn 1991, 28-39.

<sup>47</sup> Ibid., 36.

<sup>48</sup> Gordon R. Sullivan. "Moving into the 21st Century: America's Army and Modernization," Military Review, July 1993, 3. This article provides information on the current modernization plan. It summarizes the United States Army Modernization Plan Update (FY 95-99) which was signed by both the Chief of Staff and the Secretary of the Army.

<sup>49</sup> Ibid., 4.

---

<sup>50</sup> Ibid., 6.

<sup>51</sup> Ibid., 7.

<sup>52</sup> Ibid., 7.

<sup>53</sup> Ibid., 9.

<sup>54</sup> Ibid., 9.

<sup>55</sup> Ibid., 9. The previous seven endnotes present information on the five areas of the current modernization plan.

<sup>56</sup> Field Manual 100-5, Operations, (Washington, D.C.: Headquarters, Department of the Army, 1993), iv. Describes the basic philosophy of the U.S. Army, which has not changed since the 1986 FM 100-5.

<sup>57</sup> Ibid., 2-9. The current definition of Versatility is the ability of units to meet diverse mission requirements and the ability of tactical units to adapt to different mission and tasks, some of which may not be on unit mission-essential task lists.

<sup>58</sup> General Frederick M. Franks Jr. "Full-Dimensional Operations: A Doctrine for an Era of Change, Military Review, December 1993, 8. General Franks was the TRADOC Commander when the current FM 100-5 was presented to the Army. This article summarizes the major thoughts in the new manual.

<sup>59</sup> FM 100-5, 13-0. States that the lessons for fighting a conventional war can be used to fight in Operations Other Than War. (OOTW).

<sup>60</sup> Ibid., 2-9.

<sup>61</sup> Personal experience by the author during the class of 1994-95 at the Command and General Staff College at Fort Leavenworth, Kansas. The majority of the tactical problems during the year were based on fighting a conventional war similar to the Desert Storm experience.

<sup>62</sup> Ibid. This is an estimate developed by the author. The bottom line is that the new battlefield environment was not a tactical problem solved during the CGSC year. The future battlefield environment was barely touched on during the 94-95 academic year of CGSC.

---

<sup>63</sup> FORCE XXI OPERATIONS, 4-4.

<sup>64</sup> Benjamin S. Bloom. editor. Taxonomy of Educational Objectives, Handbook: Cognitive Domain. New York: David McKay company, Inc., 1956), 18-19. Discusses cognitive skill that future leaders of Force XXI will need to have in order to adapt to the elephant. Bloom presents six classes that range from low to high levels of complexity. These classes from low to high are: Knowledge. Comprehension, Application, Analysis, Synthesis, and Evaluation.

<sup>65</sup> Jeff Lau, Training Leaders for Force XXI: An Azimuth for CGSOC Tactics Instruction. (The School of Advanced Military Studies, 1996), 17.

<sup>66</sup> Ibid., 17.

<sup>67</sup> Ibid., 17.

<sup>68</sup> Robert Allan Doughty, The Seeds of Disaster, The Development of French Army Doctrine 1919-1939, (Hamden, Connecticut: Archon Books), 183. The Author presents a myriad of problems that led to the French disaster in WWII. One major problem was the intellectual stagnation that the French possessed during the interwar period between WWI and WWII.

<sup>69</sup> Ibid., 183.

<sup>70</sup> Howard, 4.

<sup>71</sup> James S. Corum, The Roots of Blitzkrieg, (University Press of Kansas, 1992), xvi.

<sup>72</sup> Ibid., xvi.

<sup>73</sup> Ibid., xvi.

<sup>74</sup> Ibid., xvi.

<sup>75</sup> Ibid., 25.

<sup>76</sup> Ibid., 7.

<sup>77</sup> Ibid., 7.



- 
- <sup>78</sup> Ibid., 31.
- <sup>79</sup> Ibid., 32.
- <sup>80</sup> Ibid., 33.
- <sup>81</sup> Ibid., 31.
- <sup>82</sup> Ibid., 80.
- <sup>83</sup> Ibid., 80. Corum quotes a book by David N. Spires titled, Image and Reality: The Making of the German Officer, 1921-1933.
- <sup>84</sup> Ibid., 11.
- <sup>85</sup> Ibid., 11.
- <sup>86</sup> Ibid., 90.
- <sup>87</sup> Ibid., 85.
- <sup>88</sup> Ibid., 85.
- <sup>89</sup> Ibid., 91.
- <sup>90</sup> Ibid., 92.
- <sup>91</sup> Ibid., 92.
- <sup>92</sup> Matthew Cooper, The German Army 1933-1945, (United States of America, Scarborough House Publishers), 133.
- <sup>93</sup> Ibid., 203.
- <sup>94</sup> Larry H. Addington, The patterns of War Since the Eighteenth Century, (Bloomington, Indiana University Press, 1984), 163.
- <sup>95</sup> Ibid., 163.
- <sup>96</sup> Corum, 48.
- <sup>97</sup> Ibid., 48.
- <sup>98</sup> Doughty, 179.

---

<sup>99</sup> Ibid., 187.

---

## BIBLIOGRAPHY

### BOOKS

Addington, Larry H. The Patterns of War Since the Eighteenth Century. Bloomington: Indiana University Press,

Bloom, Benjamin S. Taxonomy of Educational Objective, Handbook 1: Cognitive Domain. New York: David McKay Co. Inc., 1993.

Bracken, Paul J. and Alcala, Raoul H. Whither the RMA: Two Perspectives on Tomorrow's Army. Carlisle Barracks, Pa: U.S. Army War College, 1994.

Cohen, Eliot A. Making Do With Less, or, Coping with Upton's Ghost. Carlisle Barracks, Pa. U.S. Army War College, 1995.

Cohen, Eliot A. and Gooch, John. Military Misfortunes. New York: The Free Press, 1990.

Cooper, Matthew. The German Army 1933-1945. Chelsea, MI: Scarborough House, 1978.

Corum, James S. The Roots of the Blitzkrieg. Kansas: University Press of Kansas, 1992.

Deighton, Len. BLITZKRIEG. New York: Random House, 1980.

Doughty, Robert A. The Seeds of Disaster. Hamden, Conn: Archer Books, 1985.

Fugate, Bryan I. Operation Barbarossa. Novato, CA: Presidio Press, 1984.

Gaddis, John L. The Long Peace. Oxford: Oxford University Press, 1987.

Heller, Charles E. and Stafft, William A. editor. First Battles. Lawrence, Kansas: University Press of Kansas, 1986.

Hooker, Richard D. 21st Century Doctrine and The Future of Maneuver. Arlington, VA: The Institute of Land Warfare, 1991.

- 
- Horne, Alistar. To Lose a Battle, France 1940. New York: Penguin Books, 1979.
- Keegan, John. The Second World War. New York: Penguin Books, 1990.
- Mazarr, Michael J. The Revolution in Military Affairs: A Framework for the Future. Carlisle Barracks, Pa: U.S. Army War College, 1994.
- Posen, Barry R. The Sources of Military Doctrine. London: Cornell University Press, 1984.
- Rosen, Stephen P. Winning the Next War. New York: Cornell University, 1991.
- Sullivan, Gordon. Seeing the Elephant: Leading America's Army Into the 21st Century. Cambridge, Mass: The Institute for Foreign Policy Analysis, 1995.
- Sullivan, Gordon R. and Dubik, James M. Envisioning Future Warfare. Fort Leavenworth, Kansas: U.S. Army Command and General Staff College Press, 1995.
- Wiegley, Russell. Eisenhower's Lieutenants. Bloomington: Indiana University Press, 1981.

#### ARTICLES

- Bacevich, A.J. "The Use of Force In Our Time." Wilson Quarterly. Winter, 1995.
- Bolger, Daniel P. "The Ghost of Omdurman." Parameters. Autumn, 1991.
- Bowditch, Randall. "The Revolution in Military Affairs: The Sixth Generation." Military Review. Nov/Dec, 1995.
- Bunker, Robert J. "Rethinking OOTW." Military Review. Nov/Dec 95.
- Cannon, Michael W. "Just Meeting a Requirement?" Military Review. Aug 1992.
- Fastabend, David A. "Checking the Doctrinal Map: Can We

- 
- Get There from Here with FM 100-5?" Parameter.  
Summer 1995.
- Forsythe, George B. "The Preparation of Strategic  
Leaders." Parameters. Spring 1992.
- Franks, Frederick M. "Full Dimensional Operations: A  
Doctrine for an Era of Change." Military Review.  
December, 1993.
- Higgins, George A. "German and U.S. Operational Art: A  
Contrast in Maneuver." Military Review. Oct 85.
- Howard, Michael. "Military Science in the Age of Peace."  
Chesney Memorial Gold Medal Award Lecture. 3 Oct 73.
- Kaplan, Robert D. "The Coming Anarchy." The Atlantic  
Monthly.
- Krepinevich, Andrew. "Train Wreck Coming?" National  
Review. July 1995.
- Metz, Steven. "A Wake for Clausewitz: Toward a Philosophy  
of 21st-Century Warfare." Parameters. Winter 94-95.
- Rampy, Michael R. "The Keystone Doctrine: FM 100-5,  
Operations." Military Review. June 1994.
- Steele, William, M. and Thurman, Edward E. "The Mind is the  
Key to Victory." Military Review. July 1993.
- Sullivan, Gordon. "Moving into the 21st Century: America's  
Army and Modernization." Military Review. July 1993.

#### **GOVERNMENT PUBLICATIONS**

- U.S. Army. Field Manual 100-5: Operations. Washington  
D.C.: Department of the Army, June 1993.
- U.S. Army. Tradoc Pam 525-5, Force XXI Operations.  
Washington D.C.: Department of the Army, 1994.

---

## STUDIES

Glenn, Russel W. "Fighting in Hell: A Consideration of Constrained Urban Warfare (DRAFT)." Rand Study. 1994.

Lau, Jeff. "Training Leaders for Force XXI: An Azimuth for CGSOC Tactics Instruction." Advanced Military Studies Program Monograph. Fall 1996.